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2   **CLAIMS:**
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4   1. An earth boring bit, comprising:

5   a bit body having at least one bit leg;

6   a cone shell rotatably mounted to the bit leg;

7   at least one circumferential row of compacts protruding from the cone shell; and

8   a depression in the cone shell extending between each of the compacts in the row.

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10   2. The bit according to claim 1, wherein each of the depressions is a flat surface.
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13   3. The bit according to claim 1, wherein each of the depressions is a flat surface located in a

14   plane that is perpendicular to a radial line of an axis of rotation of the cone.

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16   4. The bit according to claim 1, wherein each of the compacts is mounted in a hole formed in the

17   cone shell, and each of the depressions extends in a plane from an intersection of one hole with

18   an exterior of the cone shell to an intersection of an adjacent hole in the row with an exterior of

19   the cone shell.

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21   5. The bit according to claim 1, wherein each of the depressions has a generally elliptical

22   perimeter with opposite leading and trailing ends that are truncated.

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24   6. An earth boring bit, comprising:
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26   a bit body having at least one bit leg;

27   a cone shell rotatably mounted to the bit leg;

28   a plurality of holes formed in circumferential rows on conical bands of the cone shell;

1   a compact mounted in each of the holes; and

2   a plurality of depressions in the cone shell extending between adjacent holes in at least one of

3   the rows to increase effective projection of the compacts.

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5   7. The bit according to claim 6, wherein each depression is a flat surface located in a plane that

6   is perpendicular to a radial line extending from an axis of rotation of the cone.

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8   8. The bit according to claim 6, wherein each depression has leading and trailing ends that

9   intersect adjacent holes, the ends having an axial dimension that is not greater than a diameter of

10   the adjacent holes.

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12   9. The bit according to claim 6, wherein the conical band that contains the depressions has

13   conical portions axially inward and outward of each of the holes relative to an axis of rotation of

14   the cone.

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16   10. The bit according to claim 6, wherein each of the depressions on at least one of the conical

17   bands has an elliptical perimeter with truncated ends where the depressions intersect adjacent

18   holes.

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20   11. The bit according to claim 6, wherein each depression comprises a flat surface extending

21   between adjacent ones of the holes.

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1   12. The bit according to claim 6, wherein the depressions are located in all of the rows on the

2   cone.

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4   13. An earth boring bit, comprising:

5   a bit body having at least one bit leg;

6   a cone shell rotatably mounted to the bit leg for rotation about a cone axis;

7   a plurality of conical bands extending around and formed in an exterior surface of the cone

8   shell;

9   a plurality of holes extending circumferentially around each of the conical bands;

10   a plurality of compacts, each of the compacts having a cylindrical barrel mounted in one of

11   the holes and a cutting tip that projects from the conical band; and

12   a plurality of flats formed in at least one of the conical bands, each of the flats having

13   circumferentially spaced-apart ends that intersect adjacent ones of the holes, each of the flats

14   having a midpoint between its ends that is located on a radial line of the cone axis, and each

15   of the flats being located in a plane perpendicular to its radial line.

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17   14. The bit according to claim 13 wherein each of the flats has an axial width at the midpoint less

18   than an axial width of the conical band on which it is located.

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20   15. The bit according to claim 13, wherein the ends of each of the flats have an axial dimension

21   that is not greater than a diameter of the adjacent holes.

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1   16. The bit according to claim 13, wherein each of the conical bands has conical portions axially

2   inward and outward of each of the holes relative to an axis of rotation of the cone.

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4   17. The bit according to claim 13, wherein each of the holes in the row containing the flats has a

5   constant depth measured at any point around the sidewall of the hole.

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